Department of Environmental Quality Wasteload Allocations & Impacts on Local Government Growth Management and Service Districts[1]

Sewer Limits within the Chesapeake Bay Watersheds

The State Water Control Board (SWCB) has developed and adopted certain Chesapeake Bay nutrient regulations that affect the limits and requirements for all current and future VPDES permits issued within the Bay's watershed. The VPDES permits (e.g., sewer plants) are renewed every five years by the Department of Environmental Quality (DEQ) and their respective limits revised as the DEQ/SWCB may deem necessary or require. The requirements generated by new regulations are typically incorporated into the permits at that time of renewal.

The Chesapeake Bay Initiative goals were to achieve 40% reduction in nitrogen and phosphorous loadings; that reduction has not been achieved. In response, the DEQ has adopted regulations which require limits for nutrients in discharge permits as the start of a comprehensive nutrient reduction strategy. Since both private and public point source discharges are readily identifiable and already permitted by various regulatory agencies, they are typically the first target candidates for consideration in any water quality improvement initiative.

For facilities discharging into Chesapeake Bay watershed, the result has been that the DEQ has identified and assigned waste load allocations for nutrients which effectively limit the maximum size to which public wastewater treatment plants in Fauquier County and other jurisdictions can be expanded. Here are the ramifications:

1. Those facilities expansions must be designed, funded, constructed and receive the DEQ Certificate to Operate at the maximum size issued no later than December 31, 2010.

2. Should the facility not be expanded, it would default to a nutrient allocation based on whatever size it was at the time of the latter deadline, irrespective of its permitted flow rate or engineering design.

3. Once a facility is assigned a nutrient allocation, that level becomes permanent for the facility, absent any possible "allocation trading" via a regulatory trading bank that has been established. The latter, which relates to unused capacity from other jurisdictions and functions as a "lend-lease" program, not a permanent trading mechanism, will raise interesting legal issues when those jurisdictions want to use their facility's full capacity. In effect, the nutrient allocation assigned to individual facilities will become a limiting constraint to the amount of growth an area can support, irrespective of its actual impact on the Chesapeake Bay's water quality.

Impacts on Urban Growth Areas (HB 3202)

Fauquier County has had nine designated Service Districts for over 20 years, and these represent the locations where town scaled development with full public services, facilities and utilities are

[1] Based on Fauquier County Water & Sanitation Authority (FCWSA) Letters to the Virginia Department of Environmental Quality (Dated: April 25, 2006; August 24, 2006), and associated materials.

to be provided. These are equivalent to the Urban Growth Areas (UGA) required in the legislation enacted in 2007 regarding transportation (HB 3202).

The DEQ allocation cap causes several challenges to local communities and its elected officials. An example affects the County's Bealeton, Opal and Remington Service Districts, which are served by the existing 2.0 mgd Remington wastewater treatment plant. According to the Fauquier County Water & Sanitation Authority (FCWSA), this facility is now operating at about 60% of that capacity. The DEQ nutrient allocation allows this facility to be expanded up to 2.5 mgd. Once these three service districts are fully developed over the next 25-30 years, with a projected resident population of 17,000 and associated business development, the resulting demand is forecasted to consume the full sewer capacity. These communities are dissected by the state primary roads of Rt. 28, Rt. 17 and U.S. 15/29 all of which interconnect or lead to I-95, I-66 and I-81.

Pay to Play. To implement the required DEQ environmental upgrades for the Remington plant and construct the increased capacity allowed under the existing VPDES permit will cost ±$13 million (refer to Table 1). With demands for new schools and other critical public safety priorities, the Board of Supervisors currently does not have the funding flexibility to finance any expansion, with the existing plant capacity suitable for the next 5-10 years in this growth area. The Fauquier County Board of Supervisors recently deferred providing funding assistance to the FCWSA for such an expansion, since it was premature based on existing demand. From a different policy direction, the FCWSA requires new developments to completely fund sewer lines and expanded capacity, not its rate payers. At this time, there is no private sector interest to participate in funding the future expansion. It now means that rather than having the planned 2.5 mgd plant, the Remington facility will be capped and restricted to its 1.4 mgd under the current DEQ regulations, if the December 2010 deadline remains in effect.[2]

This circumstance is unfortunate since this three community area is poised to grow significantly, and will have to rely on septic tank/drainfield technology or smaller package treatment facilities (e.g., non-discharge) for development demand beyond the Remington plant's existing capacity. This county wants to limit individual lot septic system and their documented problems region-wide with their poor maintenance and performance record. This community wants its urban growth areas served through DEQ permitted and monitored public central sewer systems. This objective only helps the overall initiatives attempting to improve the health of the Chesapeake Bay estuary.

The question of equity for the actual caps established for each jurisdiction has not been reviewed comprehensively by the local governments affected. Secondly, the cost effectiveness and fairness of forcing smaller jurisdictions to design, finance, procure contracts and build such major investments far in advance of actual demand, plus receive all DEQ approvals by the December 2010 deadline, is simply not realistic.

The perceived build it or lose it direction by the State of Virginia seems to encourage: (a) smaller privately owned and operated package treatment systems (sized less than 40,000 gpd; avoidance of the nutrient allocation cap); (b) individual septic/drainfield systems respectively that require increased individual lot owner maintenance requirements and local Health Department staff monitoring; or (c) central treatment systems with non-discharge options that require more acreage for land application (e.g., spray irrigation and similar non-discharge technologies). Private sector initiatives for package treatment plant (discharge of 40,000 gpd or greater) will be subject to the same prohibitions if they are not permitted and operational through DEQ by 2010.

[2] If the planned environmental upgrades are installed, the Remington Plant's capacity would proximate 2.0 mgd in reality.

Red Light. In the Marshall Service District, the FCWSA facility cannot be expanded beyond its existing 0.64 mgd capacity, even after the DEQ mandated $4 million compliance level upgrade is completed (refer to Table 1). Marshall, along with The Plains (an incorporated town), together appear to need a combined facility capacity of 750,000 gpd in the long-term.

Table 1: Cost Impacts of the DEQ Nutrient Allocations – Fauquier County

WWTP Location	Existing Treatment Capacity	Planned Treatment Capacity[3]	Mandate Costs[4]
Marshall	0.64 mgd	0.64 mgd	$ 4,031,000
Bealeton/Opal/Remington	2.00 mgd	2.50 mgd	$12,960,000
New Baltimore	0.60 mgd	0.95 mgd	$ 5,113,000
Warrenton[5]	2.50 mgd	2.50 mgd	0
Totals	5.74 mgd	6.59 mgd	$22,104,000

Major Conflicts in State Government Initiatives. Here the legislated 2007 Urban Growth Area (UGA) and DEQ/EPA regulations appear to be going in opposite directions. The UGA legislation admirably attempts to encourage compact, walkable and sustainable communities that will also require central water and sewer due to the specified business and residential development densities. It pushes communities to identify areas in which growth is desired, plan infrastructure requirements, develop more pragmatic 5-Year Capital Improvement Programs for public facilities, and implement transportation impact fees to have new development pay its fare share for the needed road improvements. Such efforts take time, public and private investment, and are affected by market conditions and the location of jurisdictions. Comprehensive planning for most jurisdictions generally is developed for horizons ranging from 20 to 30 years.

Yet, the DEQ sewer plant caps, construction and operational deadlines currently set for December 2010 are not compatible nor based on such enacted planning initiatives of HB 3202. They are based on the subjectively assumed and modeled parameters and performance standards for the Chesapeake Bay, which the multi-state area continues to fail meeting and bringing this invaluable and complex estuary to better health. The DEQ's build the capacity or lose it provisions, makes it exceptionally difficult for smaller jurisdictions: (a) to create the walkable and sustainable communities citizens want locally and statewide: (b) to effectively implement Urban Growth Areas; (c) to have infrastructure in place to support the intended development; and (d) to effectively take advantage of traffic impact fee legislation. There is established momentum and opportunities statewide to implement better planned and environmentally sensitive communities. However, the referenced conflict between the existing DEQ regulatory process for the Chesapeake Bay Initiative and HB 3202, unless resolved, presents a significant obstacle to some communities wanting to locally implement growth management provisions passed in 2007 from our perspective.

[3] Virginia Department of Environmental Quality (DEQ) has limited sewer plant capacities statewide (point source discharges); for details refer to Wastewater Treatment on page 5 and to Appendix C. The "Planned Capacities" represent that total capacity allocated through DEQ and must be certified operational by 2010.

[4] FCWSA Study (Prepared: Hazen & Sawyer, P.C.; Date: April 2007).

[5] This facility is owned and operated by the Town of Warrenton and primarily serves its incorporated limits and specified areas within the County and located within the Warrenton Service District.